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SECRETARY, BOARD OF OIL, GAS & MINING

BEFORE THE BOARD OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION OF EL PASO E&P COMPANY, L.P., DEVON **ENERGY PRODUCTION COMPANY** L.P., BILL BARRETT CORPORATION, QUINEX ENERGY CORPORATION, FLYING J OIL & GAS INC., AND HOMELAND GAS & OIL, LTD., FOR AN ORDER MODIFYING SPACING ORDERS FOR THE GREATER ALTAMONT—BLUEBELL—CEDAR RIM / SINK DRAW FIELD IN **DUCHESNE AND UINTAH COUNTIES,** UTAH, TO AUTHORIZE UP TO FOUR PRODUCING WELLS PER 640-ACRE OR EQUIVALENT DRILLING UNIT FOR OIL, GAS, AND ASSOCIATED HYDROCARBONS FROM LOWER GREEN RIVER AND WASATCH **FORMATIONS**

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

Docket No. 2008-024

Cause No. 139-84

This cause came on regularly for hearing before the Board of Oil, Gas and Mining (the "Board") on Thursday, November 13, 2008, at 9:00 a.m., in the Moot Court Room of the University of Utah, S.J. Quinney College of Law in Salt Lake City, Utah; and on Wednesday, December 3, 2008, at 10:00 a.m., in the Hearing Room of the Utah Department of Natural Resources at 1594 West North Temple Street, in Salt Lake City, Utah.

Board members present and participating in the November 13, 2008 hearing were: Douglas E. Johnson, Chairman, Kent R. Petersen, Vice Chairman, and Robert J. Bayer, Jake Y.

Harouny, Samuel J. Quigley, Jean Semborski, and Ruland J. Gill, Jr. Douglas E. Johnson, Chairman, Kent R. Petersen, Vice Chairman, and Robert J. Bayer, Jake Y. Harouny, Jean Semborski, and Ruland J. Gill, Jr. participated in the December 3, 2008 hearing.

Phillip Wm. Lear and Jonathan D. Lear of Lear & Lear L.L.P. appeared on behalf of petitioners, El Paso E&P Company, L.P., Devon Energy Production Company, L.P., Bill Barrett Corporation, Quinex Energy Corporation, Flying J Oil & Gas, Inc., and Homeland Gas and Oil, Ltd..(hereinafter sometimes collectively the "Operators"). Laura B. Smith, Senior Staff Landman, James M. Borer, Senior Staff Geologist, and Benjamin L. Sargent, Reservoir Engineering Manager, all of El Paso E&P Company, L.P., appeared as witnesses for the Operators.

Kevin L. Bolander, Assistant Attorney General, represented the Division of Oil, Gas and Mining ("Division") and Dustin Doucet, Petroleum Engineer, and Clinton Dworshak, Geologist, appeared as witnesses for the Division.

Michael S. Johnson, Assistant Attorney General, represented the Board.

Michael L. Colthard, Petroleum Engineer, Branch of Fluid Minerals commented for the United States Department of the Interior, Bureau of Land Management, Utah State Office and Vernal Field Office in favor of the proposed spacing modification. (Trans. 1 at 284-285). The Utah Division of Wildlife Resources ("DWR") filed email and letter comments regarding the potential effect of additional wells on wildlife in the area proposed for spacing modification; and Bill James appeared at the December 3, 2008 hearing to address the DWR's concerns. Alarik Myrin, President of Myrin Ranches, filed written comments and made oral comments at the November 13, 2008 hearing, regarding maintenance of wells on his property and surface use.

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Mr. Myrin raised no objection to the modified spacing sought under the Petition. (Trans. 1 at 258, 260-61.

Frederick M. MacDonald, attorney for Devon Energy Production Company, L.P., appeared at the November 13, 2008 hearing and joined in the Operators' motion for a continuance of any discussion of the Division's recommendation for enforcement authority regarding shut-in wells to a subsequent hearing. The Board continued any hearing on the issue of the Division's recommendation to the December 3, 2008 hearing and requested the parties to submit a stipulation, if any, on that issue by November 21, 2008, as well as briefs by November 25, 2008. After discussion with the Operators, the Division withdrew its shut-in and temporarily abandoned well-enforcement recommendation prior to the December 3, 2008 hearing.

No other "owner" or "person" having a direct or "legally protected interest" in these proceedings filed a response to the Request for Agency Action (hereinafter "Petition") or appeared as a "party" in the hearing, as those terms are defined in Utah Oil and Gas Conservation Act, the Utah Administrative Procedures Act, and the Rules of the Board of Oil, Gas and Mining. See Utah Code Ann. §§ 40-6-2(15); 63G-4-103(f) & (g); Utah Admin. Code R641-100-200 (2008).

NOW THEREFORE, the Board, having fully considered the testimony adduced and the exhibits received at the hearings, and being fully advised in the premises, makes and enters its Findings of Fact, Conclusions of Law, and Order, as follows:

FINDINGS OF FACT

1. The Board mailed notice of the initial hearing to interested persons on October 23, 2008, and caused notice to be published in the *Deseret Morning News*, in the *Salt Lake*

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Tribune, and in the Vernal Express, a newspaper of general circulation in Uintah County, Utah, on October 29, 2008; and in the Uintah Basin Standard, a newspaper of general circulation in Duchesne County, Utah, on October 28, 2008.

- 2. The Operators mailed photocopies of the Petition to the last known address of all owners having interests in the spaced area to be modified by certified mail, return receipt requested, together with federal and state regulatory agencies having jurisdiction over leasing and drilling operations on their respective lands and introduced into evidence tracking logs of all mailing and service of new owners and interested persons identified from United States Post Office returns and correspondence with persons served.
- 3. The Operators are duly licensed in their various states of organization or incorporation identified in the Petition and are qualified to conduct business in the State of Utah.
- 4. The Board has heretofore established 640-acre drilling units (or their public land survey equivalents, whether larger or smaller than 640-acre public land survey sections) for the Lower Green River / Wasatch formations in the Greater Altamont-Bluebell-Cedar Rim-Sink Draw fields (the "Fields") in the Cause Nos. 131 (Bluebell field), 139 (Altamont field), and 140 (Cedar Rim-Sink Draw field) series of orders, as stratigraphically defined in those orders (the "Spaced Intervals"). Those orders authorized the drilling of one well for production of oil, gas, and associated hydrocarbons from the Spaced Intervals.
- 5. By Order in Cause No. 139-42, entered April 17, 1985, the Board modified the well spacing in the Spaced Intervals in the Fields, authorizing additional wells to be drilled, completed, and produced on the established drilling units to a density of no greater than two producing wells in each drilling unit at the option of the operator, based upon geological and

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engineering data for the drilling unit that would justify an additional well in order to recover oil, gas, and associated hydrocarbons, and provided that the operator would have a reasonable opportunity to recover costs of drilling, completing, producing, and operating a well plus a reasonable profit. Any additional wells were to be located at least 1,320 feet from an existing well producing from the Spaced Intervals and not closer than 660 feet from the exterior unit boundary, with no two wells authorized to be drilled in the same quarter-section.

6. Those lands within the Fields sought for spacing modification under the Operators' Petition are situated in Duchesne and Uintah Counties, Utah, and are described, as follows:

Township 1 South, Range 1 East, U.S.M.

Section 7: All

Section 8: All

Section 14: All

Section 15: All

Section 16: All

Section 17: E½NW¼, N½SW¼,

SW1/44SW1/4

Section 18: N1/2

Section 19: S½SW¼, SW¼SE¼

Section 20: NE¹/₄NE¹/₄

Section 21: N½N½

Section 22: All

Section 23: All

Section 24: All

Section 25: All

Section 26: All

Section 27: E½, E½W½, SW¼SW¼

Section 28: SW1/4, S1/2SE1/4,

Section 29: NW¼NW¼, S½N¼, S½

Section 30: All

Section 31: All

Section 32: All

Section 33: All

Section 34: All

Section 35: All

Section 36: All

Township 1 South, Range 2 East, U.S.M.

Section 19: All

Section 30: All

Township 2 South, Range 1 East, U.S.M.

Section 2: All

Section 3: All

Section 4: All

Section 5: All

Section 6: All

Section 7: All

Section 8: All

Section 11: All

Section 14: All

Section 18: All

Township 1 North, Range 1 West, U.S.M.

Section 21: All

Section 22: All

Section 23: All

Section 26: All

Section 27: All

Section 28: All

Section 29: All

Section 30: All

Section 31: All

Section 32: All

Section 33: All

Section 34: All

Section 35: All

Township 1 North, Range 2 West, U.S.M.

Section 25: All

Section 26: All

Section 27: All

Section 28: All

Section 31: All Section 32: All Section 33: All Section 34: All Section 35: All Section 36: All

Township 1 North, Range 3 West, U.S.M.

Section 36: All

Township 1 South, Range 1 West, U.S.M.

Section 3: All Section 4: All Section 5: All Section 6: All Section 7: All Section 8: All Section 9: All Section 10: All Section 13: $N\frac{1}{2}$ Section 14: NE¼, W½, W½SE¼, Section 15: All Section 16: All Section 17: All Section 18: All Section 19: All Section 20: All Section 21: All Section 22: All Section 23: NW1/4NE1/4, S1/2NE1/4, W1/2, SE1/4 Section 24: S½NW¼, S½ Section 25: All Section 26: All Section 27: All Section 28: All Section 29: All Section 30: All Section 31: All Section 32:

All

Section 33: All Section 34: All Section 35: All Section 36: All

Township 1 South, Range 2 West, U.S.M.

Sections 1-36: All

Township 1 South, Range 3 West, U.S.M.

Section 1: All Section 12: All Section 13: **A11** Section 14: All Section 15: All Section 16: All Section 17: All Section 18: All Section 19: All Section 20: All Section 21: All Section 22: All Section 23: All Section 24: All Section 25: All Section 26: All Section 27: All Section 28: All Section 29: All All Section 30: Section 31: All Section 32: All Section 33: All Section 34: **A11** Section 35: All

Township 1 South, Range 4 West, U.S.M.

All

Section 15: All Section 16: All Section 17: All Sections 19-36: All

Section 36:

Township 1 South, Range 5 West, U.S.M.

Section 24: All Section 36: All

Township 2 South, Range 1 West, U.S.M.

Sections 1-18: All Sections 20-24: All Section 26: All

Township 2 South, Range 2 West, U.S.M.

Sections 1-19: All

Township 2 South, Range 3 West, U.S.M.

Sections 1-24: All

Township 2 South, Range 4 West, U.S.M.

Sections 1-33: All

Township 2 South, Range 5 West, U.S.M.

Section 1: All Section 2: All Section 3: All Sections 10-36: All

Township 2 South, Range 6 West, U.S.M.

Section 1: All Sections 12-13: All Sections 21-28: All Sections 33-36: All

Township 3 South, Range 5 West, U.S.M.

Sections 1-12: All Sections 16-21: All Sections 28-33: All

Township 3 South, Range 6 West, U.S.M.

Sections 1-36:

All

Township 3 South, Range 7 West, U.S.M.

Section 1:

All

Sections 12-13: All

Sections 24-25: All

Section 36:

All

Township 4 South, Range 6 West, U.S.M.

Sections 1-18:

All

Township 5 South, Range 19 East, S.L.M.

Section 20:

All

(Hereinafter the "Subject Lands" or "Petition Area"). The areal expanse of the Subject Lands and Petition Area encompasses approximately 372 square miles and represents the majority of drilling units established within the Fields subject to the Order in Cause No. 139-42, as shown by Exhibit L-2.

- 7. The Subject Lands comprise Indian tribal and allotted lands of the Uintah and Ouray Reservation, a few small federal parcels, lands of the State of Utah, and private lands.
- 8. The Roosevelt Unit, a federally supervised exploratory unit, lies within the Petition Area. The lands, leases, and Spaced Intervals subject to the Roosevelt Unit Agreement are excluded from the spacing modification sought by this Petition.
- 9. By Orders in some Cause No. 131 series of orders, the Board authorized drilling units no smaller than 480 acres on lands within sections affected in part by the Roosevelt Unit and 320 and 400 acres in other lands to protect correlative rights. The size of those drilling units

remains unaffected by this Petition.

- 10. By Order in Cause 139-79, the Board modified spacing under Cause No. 139-42 in Sections 2, 11, and 12 of Township 1 South, Range 1 West, U.S.M., of the Petition Area operated by Flying J to authorize the concurrent production of up to four wells per drilling unit. The Spaced Intervals and drilling units in the Cause No. 139-79 lands are exempted from the Petition.
- By Order in Cause No. 131-120, the Board modified spacing under the Order in Cause No. 139-42 as to Section 6 of Township 1 South, Range 2 West and as to Section 12 of Township 1 South, Range 3 West, U.S.M., of the Petition Area operated by Quinex Energy Corporation to authorize the concurrent production of up to four wells per drilling unit. The Order in Cause No. 131-120 is to be vacated and conformed to the Order entered herein under this Petition.
- 12. By Order in Cause Nos. 139-77 and 139-83, the Board modified spacing under the Order in Cause No. 139-42 as to drilling units affected by the Orders in Cause Nos. 139-8, 139-17, and 140-6 in the Petition Area and operated by Bill Barrett Corporation to remove the restriction that the first well to the Spaced Intervals be located in the NE¼ and authorizing additional wells anywhere in the drilling unit so long as they complied with the 1,320 feet well-location and siting distances and the set-back limitation of 660 feet from the drilling unit boundary.
- 13. Many of the Indian tribal and allotted lands leases within the Petition Area are subject to scores of Communitization Agreements under which the Indian tribal and allotted lands leases are pooled with other leases for the common development of the drilling units

established for those lands.

- 14. The Operators own working interests and/or operating rights in leases covering the Subject Lands or are mineral owners in those lands and are entitled to drill for and produce oil, gas, and associated hydrocarbons from the common source of supply.
- 15. The Spaced Intervals in the Fields, including the Subject Lands within the Petition Area, constitute a common source of supply as that term is defined in section 40-6-2(9) of the *Utah Code Annotated* (2008). Throughout the Petition Area, production occurs from multiple, generally low-matrix porosity, thin-bedded sandstones, forming a highly complex series of isolated and discontinuous beds that are randomly distributed vertically over a several thousand-foot interval. Normally, the productive beds are separate and distinct and not in communication with each other.
- 16. Throughout the Petition Area, many of the productive beds are not correlatable from well to well and will not afford communication between wells within several hundred feet of one another.
- 17. Approximately 740 wells have been drilled to date to the Spaced Intervals within the Petition Area. Approximately 351 of those wells are currently producing from the Spaced Intervals. Many first and second wells drilled to the Spaced Intervals in the Fields, including the Petition area have been plugged and abandoned or are currently shut-in.
- 18. The Operators or their predecessors have drilled approximately 52 third, and even some fourth, wells to the Spaced Intervals in the Petition Area. Some of these wells are replacement wells for plugged and abandoned wells.
 - 19. Drilling of the second, third, and fourth wells to the Spaced Intervals to date

supports the Board's previous findings that the authorized first and second wells under the Order in Cause No. 139-42 do not recover all of the economically recoverable reserves in the drilling units, primarily due to the discontinuous nature of the reservoir sands and discrete fracture zones that enhance their productivity. Profitable increased density wells have been completed in drilling units where the first and second wells have produced to the end of their economic lives.

- 20. Geologic and engineering data obtained from existing wells, including multiple wells in sections, through case studies in each of the Altamont, Bluebell, and Cedar Rim / Sink Draw fields, support a well density of up to four producing wells per drilling unit, equivalent to de facto 160-acre well patterns; provide approximately 1,000 additional infill locations; and result in the economical recovery of oil, gas, and associated hydrocarbons that otherwise would not be recovered.
- 21. In particular, evidence from mudweights, pressure data, well logs, and production data show virgin and near virgin zones exist and reserves that otherwise would not be produced will be recovered by the drilling, completion, and production of third and fourth wells.
- 22. The drilling of increased density wells under existing orders to the Spaced Intervals in the Petition Area demonstrates:
 - a. Second wells have recovered in excess of 55 MMBOE of incremental oil to date.
 - b. Second and third wells drilled discovered incremental oil in new reservoirs not intersected by earlier wells.
 - c. Second and third wells do not drain the reserves in the drilling units and are nearing the end of their economic lives.

- d. The average well drainage area in Spaced Intervals in the Petition Area is approximately 160 acres.
- e. Some of the reservoirs intersected by second and third wells do communicate with the earlier wells drilled, but also encountered incremental reserves (new reservoirs) that have not been previously encountered and produced.
- f. Despite some pressure communication between increased density wells with first and subsequent wells in section, there is no overall production interference or production acceleration between wells.
- g. Production from second, third, and even fourth wells in section did not adversely affect production in the first and other pre-existing wells producing from the Spaced Intervals in the drilling units.
- 23. Permitted increased density wells for the drilling units in the Petition Area shall be no closer than 1,320 feet from other wells completed and producing from the Spaced Intervals and no closer than 660 feet from the boundary of the established drilling units. Other locations within a drilling unit in the Petition Area may be granted administratively by the Division pursuant to *Utah Administrative Code* R649-3-3.
- 24. The Operators desire to engage in an orderly program of drilling additional wells to the Spaced Intervals in the Petition Area, at the option of the Operators, in a manner that permits additional incremental reserves to be developed and produced based on technical and economic merit, without disrupting the long-standing participation of all owners and lessees, their lessors, and others entitled to production or proceeds from production of unit wells on a drilling unit-wide basis.

- 25. A well density equivalent to 160-acre well-location and siting pattern for the Spaced Intervals within the established drilling units will economically recover incremental reserves from the Spaced Intervals, will promote the public interest, prevent waste, increase ultimate maximum recovery, and protect correlative rights of all owners.
- 26. Up to four wells drilled, completed, and produced within the established drilling units (from the Spaced Intervals) creating a well density equivalent to 160–acre well-location and siting pattern for the Spaced Intervals within the established drilling units will economically recover incremental reserves from the Spaced Intervals.

CONCLUSIONS OF LAW

- 1. The Board has jurisdiction of the parties and of the subject matter of the Request for Agency Action pursuant to Chapter 6 of Title 40 of the *Utah Code Annotated*.
- 2. The Division gave due and regular notice of the time, place, and purpose of the hearing to all interested parties as required by law and by the rules and regulations of the Board.
- 3. The Operators properly served all owners entitled to notice of spacing modifications in the Petition Area by mailing copies of the Petition to those owners having legally protected interests.
- 4. The Operators have sustained their burden of proof, demonstrated good cause, and satisfied all legal requirements for granting the Petition.
- 5. The 640-acre drilling units shall remain a uniform size and shape throughout the Petition Area and conform to the predominant pattern in the area established by the Order in Cause No. 139-42, as amended, with the exceptions noted in the Findings of Fact.

- 6. The terms and conditions sought by the Operators' Petition, as orally amended and modified at the hearings, are just and reasonable.
- 7. An order authorizing the drilling of additional wells, up to four wells in the established drilling units at the option of the operator, for the production of oil and gas and associated hydrocarbons from the Spaced Intervals in the established drilling units in the Petition Area will promote the public interest, economically increase ultimate maximum recovery, prevent waste, protect correlative rights of all owners, and avoid the drilling of unnecessary wells.

ORDER

IT IS THEREFORE ORDERED that in order to promote the public interest; to increase the ultimate recovery of the resource; to prevent physical waste of oil, gas, and associated hydrocarbons; and to protect the correlative rights of all owners:

- A. The Operators' Petition, as orally amended and modified at the hearings, is granted.
- B. The existing spacing orders in the Petition Area, with the exception of the Order in Cause No. 139-79 pertaining to Flying J operated wells and drilling units covered by that Order, are hereby modified to authorize the drilling, completion, and production of up to a total of four wells from the Spaced Intervals in the existing drilling units.
- C. Any increased density wells drilled in the existing drilling units in the Petition Area from and after entry of this Order—whether second, third, or fourth in section-wells or replacement wells—shall be drilled at the option of the operator; and the operator shall have full discretion as to development of the hydrocarbon resources.

- D. The permitted wells shall be no closer than 1,320 feet from an existing unit well drilled to, completed in, and producing from the Spaced Intervals in the drilling units and no closer than 660 feet from the drilling unit boundary.
- E. The restriction in some orders that the legal location of the first well in section is limited to the NE¼ or any other survey subdivision is vacated, and the legal location of the first and all subsequent wells may be anywhere within the drilling unit so long as it meets the distance between wells and set-back restrictions of this Order.
- F. As for those existing drilling units established by Board order to be smaller than the 640-acre sections or their survey equivalent, the total authorized wells for the drilling unit may be fewer than the four wells.
- G. The Board has considered and decided this matter as a formal adjudication, pursuant to the Utah Administrative Procedures Act, Utah Code Ann. §§ 63G-4-204 through 207, and of the Rules of Practice and Procedure before the Board of Oil, Gas and Mining, Utah Admin. Code R641 (2008).
- H. These Findings of Fact, Conclusions of Law, and Order ("Order") are based exclusively upon evidence of record in this proceeding or on facts officially noted, and constitutes the signed written order stating the Board's decision and the reasons for the decision, as required by the Utah Administrative Procedures Act, Utah Code Ann. § 63G–4–208, and the Rules of Practice and Procedure before the Board of Oil, Gas and Mining, Utah Admin. Code R641–109 (2008); and constitutes a final agency action as defined in the Utah Administrative Procedures Act and Board rules.
 - 1. Notice of Right of Judicial Review by the Supreme Court of the State of

Utah. The Board hereby notifies all parties to this proceeding, as defined in Utah Administrative Procedures Act, Utah Code Ann. § 63G-4-103(1)(f) (2008) (hereinafter "Parties" or "Party"), that they have the right to seek judicial review of this Order by filing an appeal with the Supreme Court of the State of Utah within 30 days after the date this Order is entered. *Id.* § 63G-4-208(f) (2008).

- J. Notice of Right to Petition for Reconsideration. As an alternative, but not as a prerequisite to judicial review, the Board hereby notifies all Parties to this proceeding that they may apply for reconsideration of this Order. Utah Code Ann. § 63G–4–208(e) (2008). The Utah Administrative Procedures Act provides:
 - (1) (a) Within 20 days after the date that an order is issued for which review by the agency or by a superior agency under Section [63G-4-301] is unavailable, and if the order would otherwise constitute final agency action, any party may file a written request for reconsideration with the agency, stating the specific grounds upon which relief is requested.
 - (b) Unless otherwise provided by statute, the filing of the request is not a prerequisite for seeking judicial review of the order.
 - (2) The request for reconsideration shall be filed with the agency and one copy shall be sent by mail to each party by the person making the request.
 - (3)(a) The agency head, or a person designated for that purpose, shall issue a written order granting the request or denying the request.
 - (b) If the agency head or the person designated for that purpose does not issue an order within 20 days after the filing of the request, the request for reconsideration shall be considered to be denied.

Utah Code Ann. § 63G–4–302.

The Rules of Practice and Procedure before the Board of Oil, Gas and Mining entitled "Rehearing and Modification of Existing Orders" state:

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Any person affected by a final order or decision of the Board may file a petition for rehearing. Unless otherwise provided, a petition for rehearing must be filed no later than the 10th day of the month following the date of signing of the final order or decision for which the rehearing is sought. A copy of such petition will be served on each other party to the proceeding no later than the 15th day of that month.

Utah Admin. Code R641-110-100 (2008).

The Board hereby rules that should there be any conflict between the deadlines provided in the Utah Administrative Procedures Act and the Rules of Practice and Procedure before the Board of Oil, Gas and Mining, the later of the two deadlines shall be available to any Party moving to rehear this matter. If the Board later denies a timely petition for rehearing, the aggrieved Party may seek judicial review of the order by perfecting an appeal with the Utah Supreme Court within 30 days thereafter.

- K. The Board retains exclusive and continuing jurisdiction of all matters covered by this Order and of all Parties affected thereby; and specifically, the Board retains and reserves exclusive and continuing jurisdiction to make further orders as appropriate and authorized by statute and applicable regulations.
- L. The Chairman's signature on a facsimile copy of this Order shall be deemed the equivalent of a signed original for all purposes.

ENTERED this 31 day of DECEMBER, 2008.

STATE OF UTAH

BOARD OF OIL, GAS AND MINING

Douglas E. Johnson, Chairman

Approved as to Form:

Attorney General for the State of Utah

Kevin L. Bolander

Assistant Attorney General

Attorney for the Division of Oil, Gas and Mining

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